

## Description

US Digital offers a wide variety of standard rotary encoder disks. They may be ordered as a stand alone disk (see below) or as a codewheel (see the Disks page). These rotary encoder disks are made from mylar polyester film. This material allows for a wide temperature range and is virtually unbreakable. There is no minimum order.

Custom disks featuring special resolutions, diameters (up to 12") and index options are available (contact the Sales department). An alternative to designing a custom disk for a special resolution is to use the EDIVIDE encoder resolution divider. The EDIVIDE allows users to customize resolutions to specific applications (see the EDIVIDE page).

**DISK-2** has an outer diameter (OD) of 2". The optical radius of the disk is .920". The optical radius is defined as the distance from the center of the disk to the middle of the quadrature track. We recommend that the shaft or hub diameter the disk is designed to fit be .001" to .002" larger than the disk hole diameter (ID). This gives an interference fit that ensures disk concentricity. The drawings shown represent our standard disks.

The maximum allowed RPM of the disk is typically limited by the maximum output frequency of the encoder module. The maximum allowed RPM is calculated as follows:

$$\text{Max. RPM} = (60 * F_{\text{max}}) / \text{CPR}$$

Where  $F_{\text{max}}$  = maximum encoder module output frequency and CPR is the Cycles per Revolution of the disk.

The index track option is not available with 512 CPR. The following resolutions are only available with the index option: 64, 1800 and 2500 CPR. Other resolutions are available with or without an index track.

Mechanical alignment drawings for optical encoder rotary disks and optical encoder modules are available (see the EM1 and HEDS pages).



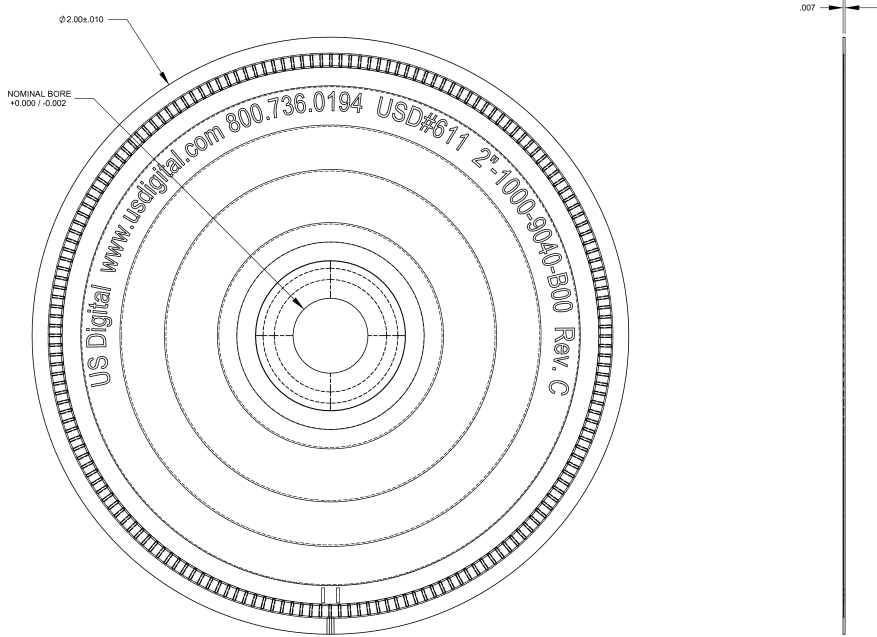
## Features

- ▶ 2" Outside Diameter
- ▶ .920" Optical Radius
- ▶ Up to 2500 CPR
- ▶ Index track option

## Related Products & Accessories

- ▶ DISK-1 1" Transmissive Rotary Disk (Base price \$8.05)
- ▶ EM1 Transmissive Optical Encoder Module (Base price \$32.35)
- ▶ HEDS Transmissive Optical Encoder Module (Base price \$28.85)
- ▶ HUBDISK-1 1" Transmissive Rotary Codewheel (Base price \$12.10)
- ▶ HUBDISK-2 2" Transmissive Rotary Codewheel (Base price \$18.45)

## Mechanical Drawing



**Tolerances**

|                                |                   |
|--------------------------------|-------------------|
| Inside Diameter (ID) tolerance | +0.000" / -0.002" |
| Outside Diameter (OD)          | 2" ± 0.010"       |
| Thickness                      | 0.007"            |

**PCN Notifications**

| Title                 | Date      | Description   | Download                 |
|-----------------------|-----------|---|--------------------------|
| DISK-2 BCD - PCN 1011 | 9/21/2011 | The standard DISK-2 transmissive encoder disk is currently produced with a 3-hole bolt pattern cut into the disk for ID sizes greater than or equal to .472" (12mm). This bolt circle feature will no longer be incorporated on any of our standard DISK-2 encoder disks. The purpose of this change is to create uniformity within our standard disk selection. Please contact us if you have interest in a custom disk with features in addition to the standard ID & OD. | <a href="#">Download</a> |

### Ordering Information

DISK-2 -  -  -

| CPR  | ID           | Index   |
|------|--------------|---|
| 64   | 093 = .093"  | N = No Index (3rd Channel),<br>Avago Compatible |
| 100  | 125 = .125"  |   |
| 200  | 375 = .375"  | I = Index (3rd Channel), Avago<br>Compatible    |
| 400  | 441 = .441"  |   |
| 500  | 472 = .472"  | NE = No Index (3rd Channel),<br>EM1 Compatible  |
| 512  | 500 = .500"  |   |
| 1000 | 551 = .551"  | IE = Index (3rd Channel), EM1<br>Compatible     |
| 1024 | 625 = .625"  |   |
| 1800 | 750 = .750"  |   |
| 2000 | 875 = .875"  |   |
| 2048 | 984 = .984"  |   |
| 2500 | 1000 = 1.00" |   |

**Notes**

▶ US Digital warrants its products against defects in materials and workmanship for two years. See complete warranty for details.

### Base Pricing

| Quantity | Price   |
|----------|---------|
| 1        | \$10.40 |
| 10       | \$9.24  |
| 50       | \$7.51  |
| 100      | \$5.78  |

- ▶ Add 38% per unit for **ID** of .472" , .500" , .551" , .625"
- ▶ Add 63% per unit for **ID** of .750" , .875" , .984" or 1.00"
- ▶ Add 18% per unit for **Index** of Index (3rd Channel), Avago Compatible or Index (3rd Channel), EM1 Compatible